<b>Work Ord</b> December-20-1				*948	RN4*							Page 1
Item ID: Revision ID:	D4085-3			Accept	*N900	040	100	<b>)*</b>	Setup	Start Stop	*N:	S1*
Item Name: Start Date: Required Date:	Placard, Instruction 12/14/12: 1/11/13	Start Qty: 8. Req'd Qty: 8.	• •		Cust Item :	ID:				333 <b>F</b>	"N;	S2*
Reference:		n: #				Pate:		I	Run	Start Stop		R1* R2*
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*110		Receive & Inspect	et for Damage & Mat'l Certs	0.00						<u> </u>		(8)
Packaging		Mem	10	0.00					7.	5/ <del>*</del>	7-	

Memo

Packaging

												DQA:	Date:	l,	
NCR:	Yes	/ No					WORK ORDER NON-C	100	NFORM	MANCE / UPD	DATE	·		•	
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Root					Des	crij	otion of work order update		nitial	Acti	ion	Sign &			
Cause		Date	Step	Qty		c	r Non-conformance	Ch	ief Eng	Descri	iption	Date	Verification	QC Inspector	
oc/Data puip/Tooling perator laterial etup ther rocess upplier raining															
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Land	ing (	1			r		General		, I			٦		<b>-</b>	
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		Crushed/0	Crimped.		[		Burrs		Instruct	ions Incomplete/U	nclear	]Part Lost/Mi	ssing	Wrong Stock Pulled	
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	$\perp$	Heat Trea	t				Countersink		Mislabe	led		Positioned V	Vrong	_	
		Inspection	Strip in	Tube			Cut Too Short		Misreac			Power Loss/	Surge	Other	
		Ripples in	Bend				Drill Holes		Offset						
		Torque W	aves in E	xtrusior	۱ [		Drawing		Out of C	alibration					
		Turning Se	equence		ſ		Finish		Out of Sequence						

Outside Dimensions

Wave/Twist in Tube

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

<b>Work Ord</b> December-20-12				*948	<b>04</b> *							Page 2	
Item ID: Revision ID: Item Name:	D4085-3 Placard, Instru	nctions		Accept	*N900	<b>040</b>	100	)*	Setup	Start Stop	171.	S1* S2*	
Start Date: Required Date: Reference:	12/14/12 : 1/11/13	Start Qty: 8.00 Req'd Qty: 8.00	*8* *8*		Cust Item I Customer:	D:							
Approvals:			ate:	Tooling: SPC (Y/N):		ate:	·		Run	Start Stop	*NI *NI	R1* R2*	
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120 *120* QC Quality Control		QC6- Inspect dimensions to dr	awing	0.00 SMP 0.00 13 L7				8	· <del></del>				
130 *130* Packaging Packaging		Identify as per dwg & Stock L	ocation:	0.00				Sx.				SP 3-01-0	), (
140 *4 4 0 *		QC21- Final Inspection - Wor	k Order Release	0.00						1-	z ),	1,-40	
*140* QC Quality Control		Memo		0.00			Land				<b>&gt;</b> #_	110 78	ſ

MLS 13-01-08

										DQA:	Date:	
NCR: Yes	/ No				WORK ORDER NON-C	CONF	ORN	MANCE / UP		QA Closed:	Date:	•
Work Order:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part No.					Rework Scrap Use-as-is Work Order Update	TI	nerm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update	Initi	al	Ac	ction	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Chief	Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data  Equip/Tooling  Operator  Material  Setup  Other  Process  Supplier  Training  Unapproved												

Landing	; Gear	General	_		_
	Bending	Bend	Grain	Ovalized	Pressure/Forced
	Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure
	Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld
	Crushed/Crimped.	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled
	Cuffs	Contamination	Maintenance	Part Moved	_
	Heat Treat	Countersink	Mislabeled	Positioned Wrong	_
	Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge	Other
	Ripples in Bend	Drill Holes	Offset		
	Torque Waves in Extrusion	Drawing	Out of Calibration		
	Turning Sequence	Finish	Out of Sequence		• • •
Γ	Wave/Twist in Tube	Folio	Outside Dimensions		

**FAULT CATEGORY** 

# Picklist Print

December-20-12 9:06:17 AM

Work Order ID:

94804

Parent Item:

D4085-3

Parent Item Name:

Placard, Instructions

**Start Date: 12/14/12** 

Required Date: 1/11/13

Page 1

Start Qty: 8.00

Required Qty: 8.00

Comments:

IPP Rev:A 10.08.18 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4085-3P		Purchased	No			110	Each	0.0000	1	8			
Placard, Instructions									e	<u> </u>	_//_		

1913/1/78)

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	·COI	NFOR	MANCE / UP	DATE	·	······································	
						<b>.</b>					QA Closed:	Date:	
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part I						Rework Scrap Use-as-is Work Order Update			Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Descri	iption of work order update		l Initial	Ac	ction	Sign &		
Cause		Date	Step	Qty		or Non-conformance		nief Eng	ł .	cription	Date	Verification	QC Inspector
oc/Data quip/Tooling Operator Material etup Other Process upplier Iraining													
							FAUL	T CATE	GORY				
Landi	ng (	Gear			_	General		,			-		_
		Bending Centre No Cracks Crushed/O Cuffs Heat Trea Inspection Ripples in	Crimped, t n Strip in		O/S	Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		┪ '	ion Incomplete ions Incomplete/ enance eled	/Unclear	Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
		Torque W	avas in F	vtrusio	, <u> </u>	Drawing		Out of	Calibration				

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

MOUNTING THE BASKET 3. AFT LOWER MOUNT 1. AFT UPPER MOUNT 2. FWD MOUNT RED TYP REMOVING THE BASKET 6.0 3. AFT UPPER MOUNT 1. AFT LOWER MOUNT 2. FWD MOUNT RED TYP D4085-3 R0.2 4PL

**D4085-3 PLACARD, INSTRUCTIONS** 

1) MATERIAL: BLACK LETTERS AND GRAPHICS WITH RED ARROWS AND LOGO

7

ON WHITE BACKGROUND AND ADHESIVE BACK.

MANUFACTURED FROM 3M, 7 MIL MASKING FILM #8522CP OR **AVERY IPM #2031** 

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: N/A

6) IDENTIFICATION: N/A

7) WEIGHT: N/A

8) USE FILE D4085-3C.eps FOR GRAPHICS

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DESIGN DRAWN CHECKED DRAWING NO. REV. C D4085 SHEET 2 OF 2 MFG. APPR. APPROVED TITLE SCALE PLACARD, INSTRUCTIONS DE APPR. DATE 10.06.25

Studio de Lettrage 210 Mair Street W Hawkesbury, Ontario K6A 2H6

# **INVOICE**

Invoice No.:

19352

Date:

01/07/2013

Ship Date:

Page:

Re: Order No.

WO9036

Sold to:

Ship to:

Dart Aerospace Ltd

Hawkesbury, Ontario

Dart Aerospace Ltd

1270 Aberdeen Hawkesbury, Ontario K6A 1K7

Business No.:

82500 7651 RT0001

Business	100	The rise, as confluencements systeming.	U 7051,RIC Jnit	Quantity	Descrip	tion :Ta	ax Unit Price	Amount
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Purchase Order #: Packing Slip #:	Part #:	Serial #:
18707 wa# 9036	Quantity:	
Description: 10x D3268-17 6x D2851-145 P/8x D4085-3P	7	
30x D3428-17	J	
Certification:		ميار داد در داد داد داد که در کاف میشند بغیریشمید بیزیده
NA's horsely certify that:		
We hereby certify that:		
1. The above the listed items were manufa	ctured, repaired an	d/or inspected in
accordance with applicable drawings an	a/or specifications;	
2. All work was accomplished in accordance	ce with the Dart Aer	ospace
Purchase Order;		
Results of all inspections, chemical or p	hysical tests, as we	Il as other evidence.
which shows the acceptability of raw material	terials, parts and/or	assembly
components are on file and available for	inspection at any ti	me.
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Authority		
Authority:		
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3M	A. C. C. C. C.	
3M		
3M	DATE:	
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	DATE:	nvier 2013

**3M** 

### **Product & Instruction Bulletin 8522**

Release I, Effective September 2008 See Bulletin Change Summary and end of Bulletin This Bulletin now includes Instruction Bulletin 4.23

# Scotchcal<sup>™</sup> Changeable Opaque Imaging Media

**8522** 

For Thermal Inkjet Printing

**Product Description** 

This durable, 7 mil, opaque, changeable tilm is optimized for use with selected thermal inkjet printers and inks. Ink dries quickly on the film. When overlaminated, it is warranted for medium term, outdoor weatherable graphics, and long term indoor graphics.

Recommended Types of Graphics and End Uses When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Please read the entire Bulletin for details.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
  - Graphics for vans, personal vehicles, trucks and buses
  - Novelty posters
  - Retail and point-of-purchase displays
  - Information graphics such as maps and directories
  - Entertainment promotions in museums, zoos, parks, theatres, sports venues
  - Education and presentation graphics
  - Legal and courtmon exhibits
- For flat or simple curved surfaces, with or without rivets, used in vertical (± 10°) applications

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

Unsuitable End Uses for This Product

- · Not for electronically cut individual letters and numbers
- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wallboard
- · Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-900-328-1684 for atternatives.

About Water-Based inkjet Technology

Standard inkjet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this Bulletin. Staying in the middle of these ranges always provides optimum performance.

# Compatible Products

#### **3M Graphic Materials**

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M** Related Literature at the end of this Bulletin.

This Bulletin provides details about the base film and construction options and warranty. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in **3M Related Literature** at the end of this bulletin.

#### 3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See 3M Related Literature at the end of this Bulletin.

#### Film

- 3M™ Scotchcal™ Opaque Imaging Media 8522
- Overlaminate
- 3M " Scotchcal " Luster Overlaminate 8519
- 3M™ Scotchcal™ Matte Overtaminate 8520

#### **Printers and Inks**

HP Designjet Printers	HP inks					
<ul> <li>2500CP and 2000CP</li> <li>2600CP and 3600CP</li> <li>3500CP and 3000CP</li> <li>HP Designjet 5000 and 5500</li> </ul>	<ul> <li>Designjet CP Ink System UV (pigment-based)</li> <li>Designjet CP Inkjet System (imaging ink)</li> </ul>					
• Z6100	HP 91 Vivera lnk System					

Epson Printers	Epson Inks
Stylus Pro 9500	Archival Inks
<ul> <li>Stylus Pro 10000 printer</li> </ul>	
<ul> <li>Stylus Pro 10600 printer</li> </ul>	

#### **Characteristics**

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

Characteristic	Description
Media	7 mil, white, opaque graphic film
Liner	Low-slippage, lay flat paper
Adhesive	Changeable, pressure sensitive
Thickness	Media with adhesive: 7.5 to 8 mil (nominal)
Warranted application substrates	See next page.
Application surfaces	Flat or simple curved surfaces, with or without rivets, used in vertical (± 10°) applications (no corrugations)
Application temperature range	28° to 110°F (-2° to 43°C) (air and surface)
Removable	For up to one year, see Warranty Information

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Characteristic	Description				
Warranted application substrates	Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.				
	Alodine (anodized aluminum)				
	Automotive panels (automotive painted steel)				
	Fruehauf (painted aluminum)				
	FRP (fiberglass reinforced plywood)				
	• Glass				
	Imron				
	Acrylic				
	Sintra ™ board				
	Note: Use on any other substrate is strictly on a graphics manufacturer and customer test and approve basis. Test for both adhesion and removal characteristics. The plasticizer in some banner materials may migrate. This may cause the edge of the graphic to peel or lift off of the banner. For optimum performance, follow the guidelines in the section, Creating A Laminated Overlap, on page 4.				

# **Warranty Information**

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. The warrantles in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest. See the warranty sections following this table for additional information.

## 3MTM MCSTM Warranty **Durability for Finished Graphics**

Construction (film and	HP Printers & Inks		Epson Printers & Inks		Removal
overlaminate on warranted substrate	Outdoor	Indoor	Outdoor	Indoor	
8522/8519 8522/8520	3 years	5 years	2 years	5 years	1 year without chemical strippers or tools

#### Warranty and Limited Remedy

The following is made in lieu of all other express or implied warranties, including any im plied warranty of merchantability or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

# Graphic Construction Options

#### **Opaque Graphics**

Opaque graphice made with imaging media 8522 require an overlaminate and an opaque substrate.

#### Viewer/Light Source



Overlaminate 8519, 8520 Adhesive on bottom

imaging Media 8522 Image on top; adhesive on bottom

Opaque Substrate

#### **Fabrication**

Different combinations of shop temperature and humidity can affect the handling of the media, the protective finish and the printed graphic. For optimum performance, use the *middle* of each of these ranges whenever possible.

**Shop Temperature** 

Acceptable: 60° to 95°F (15° to 35°C)
Optimum: 65° to 73°F (18° to 23°C)

Shop Humidity

Acceptable: 20% to 80% Optimum: 45% to 60%

Condition the Media Before Use

These steps are especially important if you are operating outside the conditions recommended under Fabrication, above.

- Leave the media in its original packaging until you are ready to condition and use it.
- The day before you need it, remove the media from the box and remove the plastic.
- Condition the media for 24 hours in the same environment as the printer.

# Printer Settings for Optimum Quality

Refer to your Hewlett Packard printer manual for detailed operating instructions.

The quality of a printed image depends on a combination of factors: correct media selection, printing software and raster imaging processor (RIP), shop conditions, etc.

The printers qualified to use this media have print mode options that are programmed specifically for these media. Current charts that show the various modes and printing dpi, and the quality results you can expect are available at www.hp.com under the website's support section. We recommend that you print the same image at all of these settings to determine acceptable print and productivity results.

The highest quality settings are usually desirable for backlit applications.

The correct media selection makes most other necessary adjustments to the printer.

- For the HP DesignJet CP 2000 or 3000 series printers, select the Opaque Vinyl UV setting.
- For the HP Designjet 5000 series printers, select the 3M Changeable UV setting or the HP Durable Gloss UV or HP Colorfast Vinyl setting.
- · For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings tay down less ink per pass, which results in better ink absorption and quicker drying times.

- For the HP DesignJet CP 2000 or 3000 series printers, select the Opaque Vinyl UV setting.
- For the HP Designjet 5000 series printers, select the 3M Changeable UV setting or the HP Durable Gloss UV or HP Colorfast Vinyl setting.
- · For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings lay down less ink per pass, which results in better lnk absorption and quicker drying times.